

10/500216

DT04 Rec'd PCT/PTO 24 JUN 2004

## SEQUENCE LISTING

&lt;110&gt; Takeda Chemical Industries, Ltd.

&lt;120&gt; Preventives/Remedies For Cancer

&lt;130&gt; P02-0148PCT

&lt;150&gt; JP2001-398220

&lt;151&gt; 2001-12-27

&lt;160&gt; 19

&lt;210&gt; 1

&lt;211&gt; 412

&lt;212&gt; PRT

&lt;213&gt; Human

&lt;400&gt; 1

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Glu | Asn | Leu | Lys | Gly | Cys | Ser | Val | Cys | Cys | Lys | Ser | Ser | Trp |
|     |     |     | 5   |     |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Asn | Gln | Leu | Gln | Asp | Leu | Cys | Arg | Leu | Ala | Lys | Leu | Ser | Cys | Pro | Ala |
|     |     | 20  |     |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Leu | Gly | Ile | Ser | Lys | Arg | Asn | Leu | Tyr | Asp | Phe | Glu | Val | Glu | Tyr | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Cys | Asp | Tyr | Lys | Lys | Ile | Arg | Glu | Gln | Glu | Tyr | Tyr | Leu | Val | Lys | Trp |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Arg | Gly | Tyr | Pro | Asp | Ser | Glu | Ser | Thr | Trp | Glu | Pro | Arg | Gln | Asn | Leu |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Lys | Cys | Val | Arg | Ile | Leu | Lys | Gln | Phe | His | Lys | Asp | Leu | Glu | Arg | Glu |
|     |     |     | 85  |     |     |     |     | 90  |     |     |     |     |     | 95  |     |
| Leu | Leu | Arg | Arg | His | His | Arg | Ser | Lys | Thr | Pro | Arg | His | Leu | Asp | Pro |
|     |     | 100 |     |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Ser | Leu | Ala | Asn | Tyr | Leu | Val | Gln | Lys | Ala | Lys | Gln | Arg | Arg | Ala | Leu |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Arg | Arg | Trp | Glu | Gln | Glu | Leu | Asn | Ala | Lys | Arg | Ser | His | Leu | Gly | Arg |
|     |     | 130 |     |     |     | 135 |     |     |     |     | 140 |     |     |     |     |
| Ile | Thr | Val | Glu | Asn | Glu | Val | Asp | Leu | Asp | Gly | Pro | Pro | Arg | Ala | Phe |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Tyr | Ile | Asn | Glu | Tyr | Arg | Val | Gly | Glu | Gly | Ile | Thr | Leu | Asn | Gln |
|     |     |     | 165 |     |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Val | Ala | Val | Gly | Cys | Glu | Cys | Gln | Asp | Cys | Leu | Trp | Ala | Pro | Thr | Gly |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Gly | Cys | Cys | Pro | Gly | Ala | Ser | Leu | His | Lys | Phe | Ala | Tyr | Asn | Asp | Gln |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Gly | Gln | Val | Arg | Leu | Arg | Ala | Gly | Leu | Pro | Ile | Tyr | Glu | Cys | Asn | Ser |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Arg | Cys | Arg | Cys | Gly | Tyr | Asp | Cys | Pro | Asn | Arg | Val | Val | Gln | Lys | Gly |
|     | 225 |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Ile | Arg | Tyr | Asp | Leu | Cys | Ile | Phe | Arg | Thr | Asp | Asp | Gly | Arg | Gly | Trp |
|     |     |     | 245 |     |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Gly | Val | Arg | Thr | Leu | Glu | Lys | Ile | Arg | Lys | Asn | Ser | Phe | Val | Met | Glu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Tyr | Val | Gly | Glu | Ile | Ile | Thr | Ser | Glu | Glu | Ala | Glu | Arg | Arg | Gly | Gln |

|   |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
|   | 275 |     | 280 |     | 285 |
| Ile Tyr Asp Arg Gln Gly Ala Thr Tyr Leu Phe Asp Leu Asp Tyr Val |     |     |     |     |     |
| 290   |     | 295 |     | 300 |     |
| Glu Asp Val Tyr Thr Val Asp Ala Ala Tyr Tyr Gly Asn Ile Ser His |     |     |     |     |     |
| 305   |     | 310 |     | 315 | 320 |
| Phe Val Asn His Ser Cys Asp Pro Asn Leu Gln Val Tyr Asn Val Phe |     |     |     |     |     |
|   | 325 |     | 330 |     | 335 |
| Ile Asp Asn Leu Asp Glu Arg Leu Pro Arg Ile Ala Phe Phe Ala Thr |     |     |     |     |     |
|   | 340 |     | 345 |     | 350 |
| Arg Thr Ile Arg Ala Gly Glu Glu Leu Thr Phe Asp Tyr Asn Met Gln |     |     |     |     |     |
|   | 355 |     | 360 |     | 365 |
| Val Asp Pro Val Asp Met Glu Ser Thr Arg Met Asp Ser Asn Phe Gly |     |     |     |     |     |
|   | 370 |     | 375 |     | 380 |
| Leu Ala Gly Leu Pro Gly Ser Pro Lys Lys Arg Val Arg Ile Glu Cys |     |     |     |     |     |
| 385   |     | 390 |     | 395 | 400 |
| Lys Cys Gly Thr Glu Ser Cys Arg Lys Tyr Leu Phe                 |     |     |     |     |     |
|   | 405 |     | 410 |     |     |

<210> 2  
 <211> 1236  
 <212> DNA  
 <213> Human

<400> 2

|             |            |            |            |            |             |      |
|-------------|------------|------------|------------|------------|-------------|------|
| atggcggaaa  | attttaaagg | ctgcagcgtg | tgttgcaagt | cttcttggaa | tcagctgcag  | 60   |
| gacctgtgcc  | gcctggccaa | gctotcctgc | cctgccctcg | gtatctctaa | gaggaacctc  | 120  |
| tatgactttg  | aagtcgagta | cctgtgcgat | tacaagaaga | tccgcgaaca | ggaatattac  | 180  |
| ctgggtgaaat | ggcgtggata | tccagactca | gagagcacct | gggagccacg | gcagaatctc  | 240  |
| aagtgtgtgc  | gtatcctcaa | gcagttccac | aaggacttag | aaagggagct | gctccggcgg  | 300  |
| caccaccggt  | caaagacccc | ccggcacctg | gacccaagct | tggccaacta | cctggtgcag  | 360  |
| aaggccaagc  | agaggcgggc | gctccgtcgc | tgggagcagg | agctcaatgc | caagcgcagc  | 420  |
| catctgggac  | gcatcactgt | agagaatgag | gtggacctgg | acggccctcc | gcgggccttc  | 480  |
| gtgtacatca  | atgagtaccg | tgttggtgag | ggcatcaccc | tcaaccaggt | ggctgtgggc  | 540  |
| tgcgagtgcc  | aggactgtct | gtgggcaccc | actggaggct | gctgcccggg | ggcgctcactg | 600  |
| cacaagtttg  | cctacaatga | ccagggccag | gtgcggcttc | gagccgggct | gcccatctac  | 660  |
| gagtgcgaact | cccgtctgcc | ctgcggctat | gactgcccga | atcgtgttgt | acagaagggt  | 720  |
| atccgatatg  | acctctgcat | cttccggacg | gatgatgggc | gtggctgggg | cgtccgcacc  | 780  |
| ctggagaaga  | ttcgcaagaa | cagcttcgtc | atggagtacg | tgggagagat | cattacctca  | 840  |
| gaggaggcag  | agcggcgggg | ccagatctac | gaccgtcagg | gcgccacctc | cctctttgac  | 900  |
| ctggactacg  | tggaggacgt | gtacaccgtg | gatgccgcct | actatggcaa | catctcccac  | 960  |
| tttgtcaacc  | acagttgtga | ccccaacctg | caggtgtaca | acgtcttcat | agacaacctt  | 1020 |
| gacgagcggc  | tgccccgcat | cgctttcttt | gccacaagaa | ccatccgggc | aggcgaggag  | 1080 |
| ctcacctttg  | attacaacat | gcaagtggac | cccgtggaca | tggagagcac | ccgcatggac  | 1140 |
| tccaactttg  | gcctggctgg | gctccctggc | tcccctaaga | agcgggtccg | tattgaatgc  | 1200 |
| aagtgtggga  | ctgagtcctg | ccgcaaatac | ctcttc     |            |             | 1236 |

<210> 3  
 <211> 2754  
 <212> DNA  
 <213> Human

<400> 3

|            |            |            |            |            |            |     |
|------------|------------|------------|------------|------------|------------|-----|
| ggcacgaggg | gcgaggccgg | ctaggcccga | atgtcgttag | ccgtggggaa | agatggcgga | 60  |
| aaattttaaa | ggctgcagcg | tgtgttgcaa | gtcttcttgg | aatcagctgc | aggacctgtg | 120 |
| ccgcctggcc | aagctctcct | gccctgccct | cggtatctct | aagaggaacc | tctatgactt | 180 |
| tgaagtgcag | tacctgtgcg | attacaagaa | gatccgcgaa | caggaatatt | acctggtgaa | 240 |

|            |             |             |             |             |             |      |
|------------|-------------|-------------|-------------|-------------|-------------|------|
| atggcgtgga | tatccagact  | cagagagcac  | ctgggagcca  | cggcagaatc  | tcaagtgtgt  | 300  |
| gcgtatcctc | aagcagttcc  | acaaggactt  | agaaaaggag  | ctgctccggc  | ggcaccaccg  | 360  |
| gtcaaagacc | ccccggcacc  | tggacccaag  | cttggccaac  | tacctggtgc  | agaaggccaa  | 420  |
| gcagaggcgg | gcgctccgtc  | gctgggagca  | ggagctcaat  | gccaagcgca  | gccatctggg  | 480  |
| acgcatact  | gtagagaatg  | aggtaggacct | ggacggccct  | ccgcgggcct  | tcgtgtacat  | 540  |
| caatgagtac | cgtgttgggtg | agggcatacac | cctcaaccag  | gtggctgtgg  | gctgcgagtg  | 600  |
| ccaggactgt | ctgtgggcac  | ccactggagg  | ctgctgcccg  | ggggcgtcac  | tgcaaaagtt  | 660  |
| tgcctacaat | gaccagggcc  | aggtagcggt  | tcgagccggg  | ctgcccattct | acgagtgcga  | 720  |
| ctccccgtgc | cgtgcggt    | atgactgccc  | aaatcgtgtg  | gtacagaagg  | gtatccgata  | 780  |
| tgacctctgc | atcttccgca  | cggatgatgg  | gcgtggctgg  | ggcgtccgca  | ccctggagaa  | 840  |
| gattcgcaag | aacagcttcg  | tcatggagta  | cgtgggagag  | atcattacct  | cagaggaggc  | 900  |
| agagcggcgg | ggccagatct  | acgaccgtca  | gggcgccacc  | tacctctttg  | acctggacta  | 960  |
| cgtggaggac | gtgtacaccg  | tggatgccgc  | ctactatggc  | aacatctccc  | actttgtcaa  | 1020 |
| ccacagttgt | gaccccaacc  | tgcagggtgta | caacgtcttc  | atagacaacc  | ttgacgagcg  | 1080 |
| gctgccccgc | atcgctttct  | ttgccacaag  | aaccatccgg  | gcaggcgagg  | agctcacctt  | 1140 |
| tgattacaac | atgcaagtgg  | accccgtgga  | catggagagc  | acccgcatgg  | actccaactt  | 1200 |
| tggcctggct | gggctccctg  | gctcccctaa  | gaagcgggtc  | cgtattgaat  | gcaagtgtgg  | 1260 |
| gactgagtc  | tgccgcaaat  | acctottcta  | gcccttagaa  | gtctgaggcc  | agactgactg  | 1320 |
| agggggcctg | aagctacatg  | cacctccccc  | actgctgccc  | tcctgtcgag  | aatgactgcc  | 1380 |
| agggcctcgc | ctgcctccac  | ctgcccccac  | ctgctcctac  | ctgctctacg  | ttcagggctg  | 1440 |
| tggccgtggt | gaggaccgac  | tccaggagtc  | ccctttccct  | gtcccagccc  | catctgtggg  | 1500 |
| ttgcacttac | aaacccccac  | ccaccttcag  | aaatagtttt  | tcaacatcaa  | gactctctgt  | 1560 |
| cgttgggatt | catggcctat  | taaggaggtc  | caaggggtga  | gtcccaaccc  | agccccagaa  | 1620 |
| tatatattgt | tttgcacctg  | cttctgcctg  | gagattgagg  | ggtctgtctg  | aggcctcctc  | 1680 |
| ccctgtgccc | caaaggatg   | gggaagcaac  | cccagagcag  | gcagacatca  | gaggccagag  | 1740 |
| tgcctaggcc | gacatgaagc  | tggttcccca  | accacagaaa  | ctttgtacta  | gtgaaagaaa  | 1800 |
| gggggtccct | gggctacggg  | ctgaggctgg  | tttctgtctg  | tgcttacagt  | gctgggtagt  | 1860 |
| gttggcccta | agagctgtag  | ggtctcttct  | tcagggctgc  | atatctgaga  | agtggatgcc  | 1920 |
| cacatgccac | tggaaaggga  | gtgggtgtcc  | atggggccact | gagcagtgag  | aggaaggcag  | 1980 |
| tgcagagctg | gccagccctg  | gaggtaggct  | gggaccaagc  | tctgccttca  | cagtgcagtg  | 2040 |
| aaggtagcta | gggctcttgg  | gagctctgcg  | gttgctaggg  | gccctgacct  | gggggtgtcat | 2100 |
| gaccgctgac | accactcaga  | gctggaacca  | agatctagat  | agtccgtaga  | tagcacttag  | 2160 |
| gacaagaatg | tgcattgatg  | gggtggtgat  | gagggtgccag | gcactgggta  | gagcacctgg  | 2220 |
| tccacgtgga | ttgtctcagg  | gaagccttga  | aaaccacgga  | ggtggatgcc  | aggaaaagggc | 2280 |
| ccatgtggca | gaaggcaaaag | tacaggccaa  | gaattggggg  | tgggggagat  | ggcttcccca  | 2340 |
| ctatgggatg | acgaggcgag  | agggaagccc  | ttgtctgcctg | ccattcccag  | accccagccc  | 2400 |
| tttgtgtcta | ccctggttcc  | actggtctca  | aaagtcacct  | gcctacaaat  | gtacaaaagg  | 2460 |
| cgaaggttct | gatggctgcc  | ttgtctcctg  | ctccccacc   | ccctgtgagg  | acttctctag  | 2520 |
| gaagtccttc | ctgactacct  | gtgccagag   | tgcccctaca  | tgagactgta  | tgccctgcta  | 2580 |
| tcagatgcc  | gatctatgtg  | tctgtctgtg  | tgtccatccc  | gccgacccc   | cagactaacc  | 2640 |
| tcaggcatg  | gactgaatct  | ggttctcctc  | ttgtacaccc  | ctcaacccta  | tgcagcctgg  | 2700 |
| agtgggcata | aataaaatga  | actgtcgact  | gaaaaaaaaa  | aaaaaaaaaa  | aaaa        | 2754 |

&lt;210&gt; 4

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Primer

&lt;400&gt; 4

atgcgtccca gatggctgcg

20

&lt;210&gt; 5

&lt;211&gt; 20

<212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer

<400> 5  
 gcgtcggtag accctgcgta

20

<210> 6  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer

<400> 6  
 aaccttgacg agcggctg

18

<210> 7  
 <211> 14  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer

<400> 7  
 tcgcctgccg gatg

14

<210> 8  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Probe

<400> 8  
 ccgcatcgct ttctttgccca caa

23

<210> 9  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Primer

<400> 9  
 ggaaagatgg cggaaaattt aaaa

24

<210> 10  
 <211> 24  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 10

gggctagaag aggtatttgc ggca

24

<210> 11

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 11

ccggaattcg cggaaaattt aaaaggctgc a

31

<210> 12

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 12

ccgctcgagc tagaagaggt atttgcggc

29

<210> 13

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 13

ccgctcgagc tagccacacag ccacctggtt ga

32

<210> 14

<211> 113

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 14

ggggtaccaa gatggagcag aaactcatct ctgaagagga tctggagcag aaactcatct  
ctgaagagga tctggagcag aaactcatct ctgaagagga tctggaattc cgg

60  
113

<210> 15

<211> 113

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 15

ccggaattcc agatcctctt cagagatgag ttctgtctcc agatcctctt cagagatgag 60  
 ttctgtctcc agatcctctt cagagatgag ttctgtctcc atcttggtac ccc 113

<210> 16

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 16

tgtgtgcgta tcctcaagca gtcc 24

<210> 17

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 17

ctagaagagg tatttgcggc agga 24

<210> 18

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 18

gtcgtagcc gtggggaaaag atgg 24

<210> 19

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Primer

<400> 19

atatgcagcc ctgaagaaga gacc 24